LISTING OF CLAIMS

1. – 20. Cancelled

21. (New) A high performance system for exhausting combustion gases from an internal combustion engine comprising:

a shell;

an expansion chamber tube coaxially attached to said shell;

a sleeve in said shell;

sound suppression materials in said sleeve;

said expansion chamber tube being perforated with apertures to about 40 – 80% porosity; and

an inlet tube subassembly fastened to said shell in communication with said expansion chamber tube;

a rotatable propeller type blade assembly arranged in said inlet tube, said rotatable propeller being arranged in said high performance propulsion chamber system and capable of rotation when said combustion gases pass from said inlet tube into said expansion chamber,

said rotation of said propeller facilitating passage of exhaust gases through the expansion chamber and exiting through an outlet in said shell.

22. (New) The exhaust system according to **Claim 21**, wherein said rotatable propeller type blade assembly is mounted on a Teflon-filled bronze bearing that is rotatably mounted on a shoulder screw.

23. (New) The exhaust system according to **Claim 21**, wherein said rotatable propeller type blade assembly is mounted on a shoulder screw that is rotatably mounted in a Teflon-filled bronze bearing.

24. (New) The exhaust system according to **Claim 21**, wherein said expansion tube has at least about 85% greater flow cross-sectional area than said inlet tube.

25. (New) The exhaust system according to **Claim 21**, wherein said expansion tube has at between about 75% to about 90% greater flow cross-sectional area than said inlet tube.

26. (New) The exhaust system according to **Claim 21,** wherein said rotatable propeller type blade assembly is comprised of multiple blades.

26. (New) The exhaust system according to **Claim 21,** wherein said rotatable propeller type blade assembly is comprised of at least two blades.

27. (New) The exhaust system according to **Claim 21,** wherein said blades of said rotatable propeller type blade assembly are arranged substantially at about a 30 degree spiral twist relative to the path of said exhaust combustion gases.

28. (New) The exhaust system according to **Claim 21,** wherein said blades of said rotatable propeller type blade assembly are arranged substantially at about a 20 - 60 degree spiral twist relative to the path of said exhaust combustion gases.

29. (New) The exhaust system according to **Claim 21,** wherein said sound suppression materials are selected from the group consisting of fiberglass, glass wool, copper wool, copper strands, steel wool and a combination thereof;

30. (New) The exhaust system according to **Claim 21**, wherein said exhaust chamber system is joined directly to an internal combustion engine.

31. (New) The high performance propulsion exhaust chamber system according to **Claim 21**, wherein said exhaust chamber system is joined indirectly to an internal combustion engine.

32. (New) A device for increasing the efficiency of an internal combustion engine having an exhaust for gases wherein back pressure of exhaust gases exerted on said engine is reduced, wherein said device comprises:

an inlet tube for exhaust gases in flow communication with said engine exhaust,

an expansion chamber for receiving exhaust gases in flow communication with said inlet tube,

an outlet tube for exiting gases from said expansion chamber, and

a rotatable propeller type blade assembly arranged between said inlet tube and said expansion chamber tube,

said rotatable propeller type blade assembly being adapted to swirl said exhaust gas when said exhaust gases pass from said inlet tube into said expansion chamber.

33. (New) The device recited in **claim 32,** wherein said rotatable propeller type blade assembly comprises at least two blades.

34. (New) The device recited in **claim 32,** wherein said blades of said rotatable propeller type blade assembly are set between 20 – 60 degrees relative to the path of said exhaust gases.

35. (New) The device recited in **claim 32**, wherein said rotatable propeller type blade assembly is mounted on a Teflon-filled bronze bearing that is rotatably mounted on a shoulder screw.

36. (New) The device recited in **claim 32**, said rotatable propeller type blade assembly is adapted to create a vortex facilitating passage of exhaust gases through said expansion chamber to exit through said outlet.

37. (New) The device recited in **claim 32**, wherein said expansion tube has at least about 85% greater flow cross-sectional area than said inlet tube.

38. (New) The device recited in **claim 32**, wherein said expansion tube has at between about 75% to about 90% greater flow cross-sectional area than said inlet tube.

39. (New) A method for improving the performance of an internal combustion engine exhaust system comprising:

attaching a rotatable propeller proximately to an inlet of an expansion chamber within said exhaust system;

rotating said propeller when exhaust gases pass from said inlet into said expansion chamber, and

swirling exhaust gases responsive to rotating said propeller though said exhaust system to exit from an outlet in said expansion chamber.

40. (New) The method according to **claim 39**, wherein the rotation of said rotatable propeller forces said exhaust gases into a tightly spun vortex as said exhaust gases expand in said expansion chamber creating a vacuum to draw additional exhaust gases from said internal combustion engine.